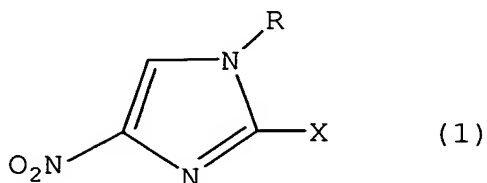
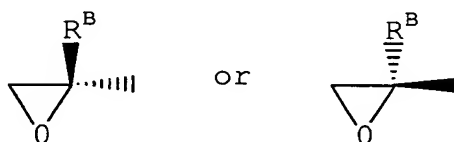


CLAIMS

1. 1-substituted-4-nitroimidazole compound represented by the general formula (1),

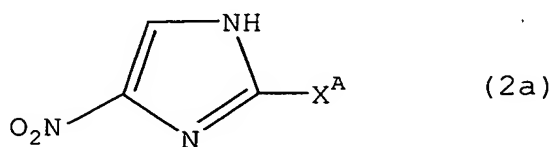


[wherein R is a hydrogen atom, a lower alkoxy group-substituted lower alkyl group, a phenyl-lower alkoxy group-substituted lower alkyl group, a cyano group-substituted lower alkyl group, a phenyl-lower alkyl group which may have a lower alkoxy group as the substituents in the phenyl ring, or a group of the formula $-\text{CH}_2\text{R}^{\text{A}}$; R^{A} is a group of the following formula,

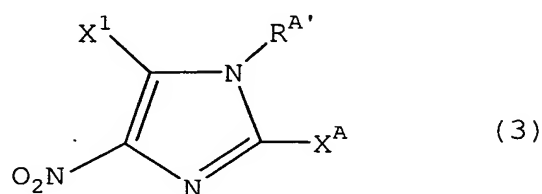


wherein R^{B} is a hydrogen atom or a lower alkyl group; X is a halogen atom or a group of the formula $-\text{S}(\text{O})_n-\text{R}^1$; n is 0 or an integer of 1 or 2; and R^1 is a phenyl group which may have 1 to 3 substituents, selected from the group consisting of a nitro group, a halogen atom and a lower alkyl group, in the phenyl ring; provided that when X is a halogen atom, then R should not be a hydrogen atom], or a salt thereof.

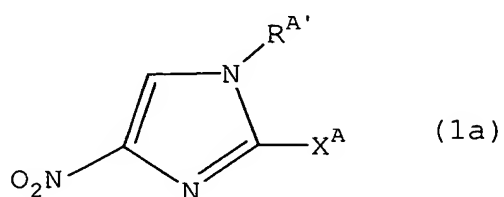
2. A method for preparing a 4-nitroimidazole compound represented by the general formula (2a),



[wherein X^A is a halogen atom], which is characterized by reducing a 4-nitroimidazole compound represented by the general formula (3),

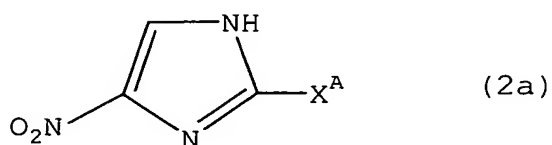


[wherein $R^{A'}$ is a lower alkoxy group-substituted lower alkyl group, a phenyl-lower alkoxy group-substituted lower alkyl group, a cyano group-substituted lower alkyl group, or a phenyl-lower alkyl group which may have a lower alkoxy group as the substituent in the phenyl ring; X^A and X^1 are each a halogen atom], and removing the $R^{A'}$ group from the obtained 1-substituted-4-nitroimidazole compound represented by the general formula (1a),

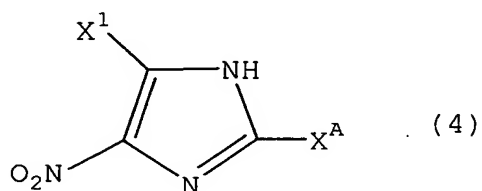


[wherein R^A and X^A are the same as defined above].

3. A method for preparing a 4-nitroimidazole compound represented by the general formula (2a),

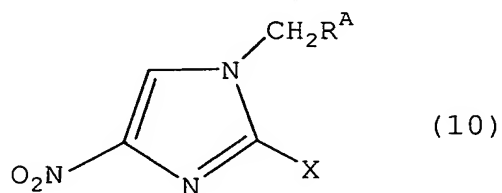


[wherein X^A is a halogen atom], which is characterized by reducing a 4-nitroimidazole compound represented by the general formula (4),

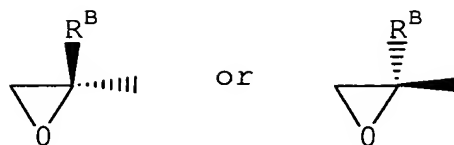


[wherein X^A and X^1 are the each a halogen atom].

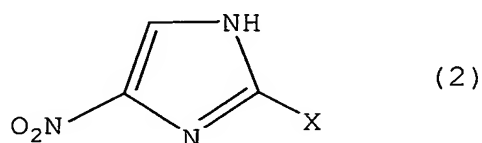
4. A method for preparing a 1-substituted-4-nitroimidazole compound represented by the general formula (10),



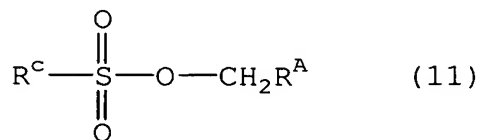
[wherein R^A is a group of the formula



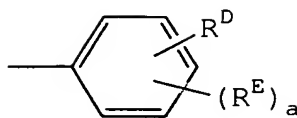
wherein R^B is a hydrogen atom or a lower alkyl group;
 and X is a halogen atom or a group of the formula
 $-S(O)_n-R^1$; n is 0 or an integer of 1 or 2; R^1 is a phenyl
 group which may have 1 to 3 substituents, selected from
 the group consisting of a nitro group, a halogen atom
 and a lower alkyl group, in the phenyl ring],
 characterized by reacting a 4-nitroimidazole compound
 represented by the general formula (2),



[wherein X is the same as defined above], with a
 glycidyl benzenesulfonate represented by the general
 formula (11),

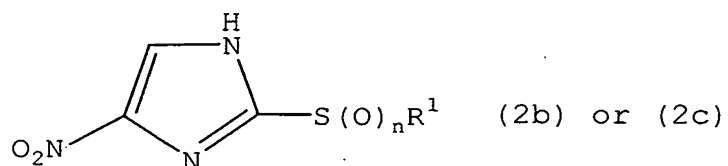


[wherein R^A is the same as defined above; and R^C is a
 group of the formula;

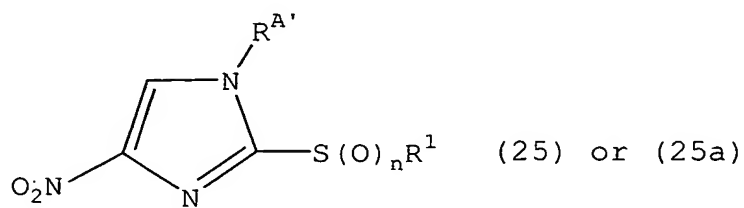


wherein R^D is a nitro group; R^E is a halogen atom or a lower alkyl group; and a is 0 or an integer of 1 or 2; provided that when a is 2, then two of R^E may be the same or different].

5. A method for preparing a 4-nitroimidazole compound represented by the general formula (2b) or (2c),

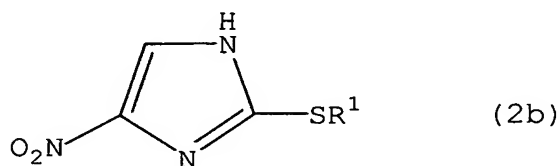


[wherein R^1 is a phenyl group which may have 1 to 3 substituents, selected from the group consisting of a nitro group, a halogen atom and a lower alkyl group, in the phenyl ring; and n is 0 or an integer of 1 or 2], which is characterized by removing $R^{A'}$ group from the 1-substituted-4-nitroimidazole compound represented by the general formula (25) or (25a),

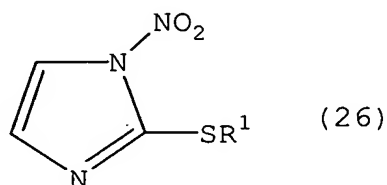


[wherein n and R^1 are the same as defined above; and $R^{A'}$ is a lower alkoxy group-substituted lower alkyl group, a phenyl-lower alkoxy group-substituted lower alkyl group, a cyano group-substituted lower alkyl group, a phenyl-lower alkyl group which may have a lower alkoxy group as the substituent in the phenyl ring].

6. A method for preparing a 4-nitroimidazole compound represented by the general formula (2b),

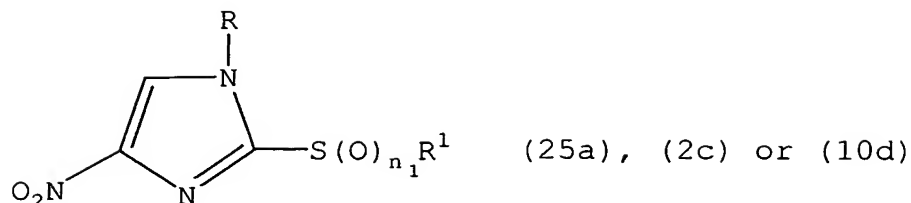


[wherein R^1 is a phenyl group which may have 1 to 3 substituents, selected from the group consisting of a nitro group, a halogen atom and a lower alkyl group, in the phenyl ring], which is characterized by rearranging a 1-nitroimidazole compound represented by the general formula (26),



[wherein R^1 is the same as defined above].

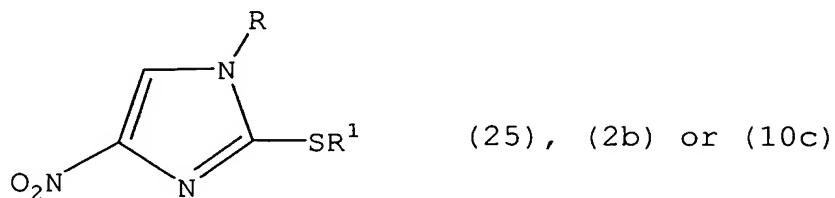
7. A method for preparing a 4-nitroimidazole compound represented by the general formula (25a), (2c) or (10d),



[wherein R^1 is a phenyl group which may have 1 to 3 substituents, selected from the group consisting of a nitro group, a halogen atom and a lower alkyl group, in the phenyl ring; R is a hydrogen atom, a lower alkoxy group-substituted lower alkyl group, a phenyl-lower alkoxy group-substituted lower alkyl group, a cyano group-substituted lower alkyl group, a phenyl-lower alkyl group which may have a lower alkoxy groups as the substituents in the phenyl ring, or a group of the formula $-\text{CH}_2\text{R}^A$; R^A is a group of the following formula,

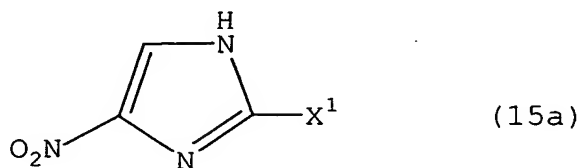


wherein R^B is a hydrogen atom or a lower alkyl group; and n_1 is 1 or 2], which is characterized by oxidizing a 4-nitroimidazole compound represented by the general formula (25), (2b) or (10c),

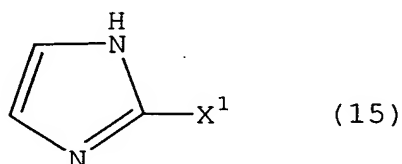


[wherein R^1 and R are the same as defined above].

8. A method for preparing a 4-nitroimidazole compound represented by the general formula (15a),



[wherein X^1 is a halogen atom], which is characterized by nitrating an imidazole compound represented by the general formula (15),

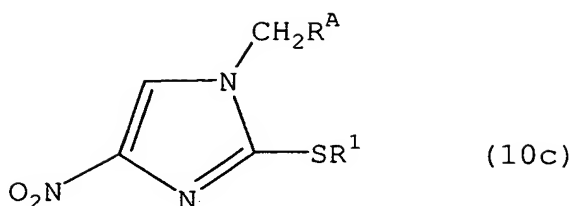


[wherein X^1 is the same as defined above] in the presence of a nitronium halogenated borate.

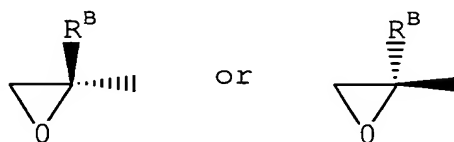
9. The method for preparing the 4-nitroimidazole compound according to Claim 8, wherein the nitronium halogenated borate is nitronium tetrafluoroborate.

10. The method for preparing 4-nitroimidazole compound according to Claim 9, wherein the nitration is conducted in nitromethane.

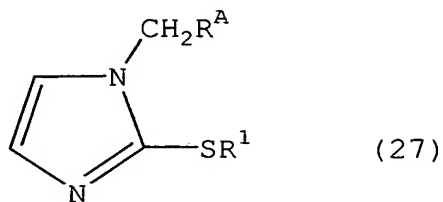
11. A method for preparing 1-substituted-4-nitroimidazole compound represented by the general formula (10c),



[wherein R^1 is a phenyl group which may have 1 to 3 substituents, selected from the group consisting of a nitro group, a halogen atom and a lower alkyl group, in the phenyl ring; and R^A is a group of the formula,

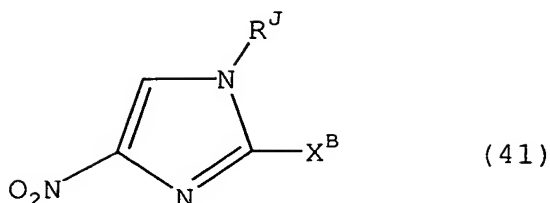


wherein R^B is a hydrogen atom or a lower alkyl group], which is characterized by nitrating a 1-substituted imidazole compound represented by the general formula (27),

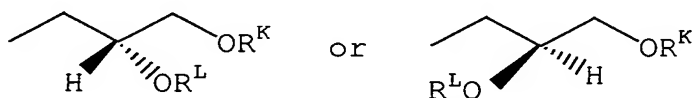


[wherein R^1 and R^A are the same as defined above].

12. A 4-nitroimidazole derivative represented by the general formula (41),



[wherein X^B is a bromine atom or a group of the formula $-S(O)_nR^1$; R^1 is a phenyl group which may have 1 to 3 substituents, selected from the group consisting of a nitro group, a halogen atom and a lower alkyl group, in the phenyl ring; n is 0 or an integer of 1 or 2; and R^J is a group of the formula,



(wherein R^K and R^L are each a tetrahydropyranyl group, a tri(lower alkyl)silyl group, a lower alkanoyl group, a phenyl-lower alkyl group which may have a lower alkoxy group as the substituent in the phenyl ring or a hydrogen atom)] or a salt thereof.

13. (S)-2-bromo-1-(2-methyl-2-oxiranylmethyl)-4-nitroimidazole or a salt thereof.

14. (R)-2-bromo-1-(2-methyl-2-oxiranylmethyl)-4-nitroimidazole or a salt thereof.

15. (S)-2-chloro-1-(2-methyl-2-oxiranylmethyl)-4-nitroimidazole or a salt thereof.

16. (R)-2-chloro-1-(2-methyl-2-oxiranylmethyl)-4-nitroimidazole or a salt thereof.